

WHAT IS CLAIMED IS:

1. A method of registering position in a mobile radio communication system in which a position registration area number is reported from a base station to a mobile station within a radio zone, position information indicating a position registration area in which a mobile station resides is registered in storage means based upon position registration information that has been transmitted from the mobile station, and when there is an incoming call to a mobile station, a paging call is placed from a plurality of base stations within the position registration area, in which said base station resides, based upon position information that has been read out of said memory means, comprising steps of:
 - registering a rule for predicting the manner in which a mobile station changes a position registration area by moving;
 - checking, on a per-mobile-station basis, whether a state in which said rule is applicable has been attained; and
 - updating the position registration area of said mobile station based upon said rule if the state in which the rule is applicable has been attained.
2. A method of registering position according to claim 1, wherein said rule stipulates timing at which a mobile station changes a position registration area.
3. A method of registering position according to claim 1 wherein said rule is reported from a base station to a mobile station upon being incorporated in notification information transmitted from a network side, and said mobile station halts transmission of position registration information if the state in which said rule is applicable is attained.
4. A method of registering position according to claim 3, wherein when a position registration area that has been assumed based upon said rule and a position registration area of which notification has been given

from the network side agree a predetermined number of times, said mobile station judges that a state in which said rule is applicable has been attained and halts transmission of position registration information.

5 5. A method of registering position according to claim 3, wherein if a position registration area that has been assumed based upon said rule differs from a position registration area of which notification has been given from the network side, said mobile station
10 notifies the network side of position registration information.

6. A method of registering position according to claim 5, wherein correcting the timing in said rule based upon a plurality of the notifications transmitted from
15 a mobile station at such time that a position registration area assumed based upon said rule differs from a position registration area reported from the network side.

7. A method of registering position according to claim
20 3, characterized by:

when a plurality of position registration area series composed of different combinations of radio zones under control exist, notifying a mobile station of information for deciding on the basis of which rule
25 of a position registration area series a position registration area is to be assumed; and

assuming a position registration area in accordance with the rule of a prescribed position registration area series based upon said information.

30 8. A method of registering position according to claim 1 wherein a rule for updating said position registration area is decided taking into consideration one or more items selected from among placement of man-made structures, natural geographical features, present
35 location of a mobile station, history of movement, traveling speed, time, season, date, day of the week, schedule information indicating the schedule of the owner of the mobile station and navigation information.

9. A method of registering position according to claim 1, wherein further comprising:

stipulating, by said rule, timing at which each point within a position registration area present along a route between any two points is passed;

acquiring a departure point and a destination from schedule information;

modifying said rule so as to stipulate timing at which each point present along a route connecting the departure point and the destination is passed; and

updating a position registration area of a mobile station based upon the rule modified.

10. A method of registering position according to claim 1, wherein further comprising:

stipulating, by said rule, timing at which each point within a position registration area present along a route connecting any two points is passed;

acquiring, from a navigation system, a route from a present position to a destination;

modifying said rule so as to stipulate timing at which each point present along said route obtained from the navigation system is passed; and

updating a position registration area of a mobile station based upon the rule modified.

11. A mobile radio communication system in which a position registration area number is reported from a base station to a mobile station within a radio zone, position information indicating a position registration area in which a mobile station resides is based upon

position registration information that has been transmitted from the mobile station, and when there is an incoming call to a mobile station, a paging call is placed from a plurality of base stations within the position registration area, in which said base station resides, based said position information, comprising:

means for storing a rule for predicting the manner in which a mobile station changes a position registration area by moving;

storage means for storing position information indicating a position registration area in which a mobile station resides; and

5 a position registration controller for obtaining a position registration area of a mobile station based upon said rule if a state in which said rule is applicable has been attained on a per-mobile-station basis, and updating said position information.

12. A mobile radio communication system according to
10 claim 11, wherein said rule stipulates timing at which a mobile station changes a position registration area.

13. A mobile station in a mobile radio communication system in which a position registration area number is reported from a base station to a mobile station within
15 a radio zone, position information indicating a position registration area in which a mobile station resides is based upon position registration information that has been transmitted from the mobile station, and when there is an incoming call to a mobile station, a
20 paging call is placed from a plurality of base stations within the position registration area, in which said base station resides, based said position information, comprising:

means for receiving and storing a rule, in
25 accordance with which a position registration area is changed by movement, from a network side; and

position registration control means for checking whether a state in which said rule is applicable has been attained and halting transmission of position
30 registration information if the state in which the rule is applicable has been attained.

14. A mobile station according to claim 13, wherein when a position registration area that has been assumed based upon said rule and a position registration area
35 of which notification has been given from the network side agree a predetermined number of times, said position registration control means judges that a state in which said rule is applicable has been attained and

halts transmission of position registration information.

15. A mobile station according to claim 13, wherein if a position registration area that has been assumed based upon said rule differs from a position

- 5 registration area of which notification has been given from the network side, said position registration control means reports position registration information to the network side.